

**Notice of Allowability**

Application No.

10/790,850

Examiner

James J. Leybourne

Applicant(s)

MORIYAMA ET AL.

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 6/20/05 and 3/3/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

**DETAILED ACTION**

***Allowable Subject Matter***

1. Claims 1-9 are allowed. The following is an examiner's statement of reasons for allowance:

Regarding independent claims 1 and 2, the prior art fails to disclose or make obvious a particle beam therapy system comprising:

- a first manual input device provided in a treatment room or a control room formed corresponding to said treatment room, and inputting an irradiation ready state;
- a safety device for confirming that preparations for generation of the charged particle beam are completed and preparations for transport of the charged particle beam in the treatment room selected in response to a ready signal from the first manual input device are completed, followed by outputting ready information;
- a ready state display unit for displaying the ready information;
- a second manual input device provided in the treatment room or control room, and inputting an irradiation start instruction when the ready information is displayed by the ready state display unit.

Claims 3 and 5 are allowed by virtue of their dependency on claim 1.

Claims 4, 6, 7 and 8 are allowed by virtue of their dependency on claim 2.

With respect to the independent claim 9, the prior art fails to disclose or make obvious a particle beam irradiating method comprising steps of:

- operating a first manual input device provided in the treatment room or a control room formed corresponding to said treatment room, thereby outputting an irradiation ready signal;
- confirming that preparations for beam transport in the beam transport system for introducing the charged particle beam to said irradiation unit in the selected treatment room are completed;
- displaying beam transport ready information upon the confirmation in the above step
- after displaying the beam transport ready information, operating a second manual input device provided in the selected treatment room or the corresponding control room, thereby outputting a signal instructing the start of irradiation.

The main feature that separates the apparatus and method apart from prior art is requiring a second operator input confirming that everything is ready before initiating start of irradiation, thus providing an extra measure of security for the patient and operational personnel.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance"

***Relevant Prior Art***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show further show the state of the art with respect to particle beam treatment systems.

US 2004/0183033, Moriyama et al.

USPN 5,260,581 to Lesyna et al.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Leybourne whose telephone number is (571) 272-2478. The examiner can normally be reached on M-F 9:00-6:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JJL

  
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SUPERVISORY PATENT EXAMINER  
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